Chapter 6: Open Space

A. INTRODUCTION

This chapter assesses the potential impacts of the proposed project on open space resources. Open space is defined by the 2012 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that operates or is available for leisure, play, or sport, or serves to protect or enhance the natural environment. The *CEQR Technical Manual* guidelines indicate that an open space analysis should be conducted if an action would result in a direct effect, such as the physical loss or alteration of public open space, or an indirect effect, such as when a substantial new population could place added demand on an area's open spaces. The proposed project would create new open space, but would also introduce a substantial new residential population to the project site that would create new demands for open space. Therefore, an open space assessment was conducted to determine whether the proposed project would result in any significant adverse open space impacts.

As discussed in Chapter 1, "Project Description," the proposed project would create approximately 2.35 acres of publicly accessible open space including a waterfront esplanade and five new upland connections to 1st Street. The waterfront esplanade would run the length of the site's waterfront, connecting on the south to Hallet's Cove Playground and on the north to Whitey Ford Field and to the existing open space in the New York City Housing Authority (NYCHA) Astoria Houses Campus across 1st Street. The waterfront esplanade would include landscaping and seating along the waterfront as well as a playground. The upland connections are intended to provide view corridors and physical public access from 1st Street to the East River that does not currently exist. The proposed open space would also include a public plaza at 27th Avenue and a playground. As each site along the waterfront is built out, the associated public open space required under the Zoning Resolution would be completed at the same time as the buildings. The proposed waterfront esplanade would be designed to provide a cohesive transition between the project site and Whitey Ford Field to the north and the Hallet's Cove Playground to the south.

PRINCIPAL CONCLUSIONS

DIRECT EFFECTS

The proposed project would not remove or alter any existing publicly accessible open spaces. Although the proposed project involves the alienation and jurisdictional transfer of a 10-foot-wide strip of parkland of Hallet's Cove Playground from DPR to NYCHA, this strip of parkland would continue to be used as open space and would therefore not result in adverse direct effects to the users of the open space. In addition, study area open spaces would not experience project-related significant adverse shadows, air quality, or operational noise impacts (see Chapters 7, "Shadows," 16, "Air Quality," and 18, "Noise"). As discussed in Chapter 20, "Construction," construction activities would result in temporary significant adverse noise impacts during construction at Whitey Ford Field and Hallet's Cove Playground. While this is not desirable, there is no effective practical mitigation that could be implemented to avoid these levels during

construction. Noise levels in many parks and open space areas throughout the city, which are located near heavily trafficked roadways and/or near construction sites, experience comparable and sometimes higher noise levels. Therefore, the proposed project would not result in any significant adverse direct impacts to open space.

INDIRECT EFFECTS

According to the CEQR Technical Manual, because the proposed project is anticipated to introduce more than 200 residents to the area, a detailed analysis was conducted to determine whether these new residents would result in significant adverse indirect impacts to open space. The detailed analysis determined that the proposed project would result in a significant adverse impact to open space in the residential study area as a result of the decrease in the total and active open space ratios.

The quantitative assessment of open space is based on ratios of usable open space acreage to the study area populations (the "open space ratios"). As compared to the city's planning goal open space ratios of 2.5 acres of total open space per 1,000 residents, including 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents, the study area is underserved by total and active open space in existing conditions and would continue to be underserved in the future without and the future with the proposed project.

The proposed project would decrease the total, active, and passive open space ratios in the study area by more than 5 percent. Because the passive open space ratio would remain above the city's passive open space guideline in the future with the proposed project (the Build condition), the proposed project would not result in a significant adverse impact on passive open space.

Despite the proposed project's creation of a public waterfront open space and the connections it would create to surrounding open space resources, as well as the availability of additional open space within the project site itself and near the study area, including several recreational amenities at the NYCHA Astoria Houses Campus which are available to the facility's residents, and the particularly large Astoria Park, the project-generated residential population would exacerbate an existing deficiency of open space in the residential study area. Therefore, the proposed project would result in a significant adverse impact to open space in the residential study area due to the reduction in the total and active open space ratios. Potential measures to mitigate the open space impacts are described in Chapter 22, "Mitigation."

B. METHODOLOGY

DIRECT EFFECTS ANALYSIS

According to the *CEQR Technical Manual*, a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. This chapter uses information from Chapter 7, "Shadows," Chapter 16, "Air Quality," and Chapter 18, "Noise," to determine whether the proposed project would directly affect any open spaces near the project site. A proposed project can also directly affect an open space by enhancing its design or increasing its accessibility to the public. The direct effects analysis is included below in "Probable Impacts of the Proposed Project."

INDIRECT EFFECTS ANALYSIS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if the project would add enough population, either residents or non-residents, to noticeably diminish the capacity of open space in an area to serve the future population. Typically, an indirect effects assessment is conducted when a project would introduce 200 or more residents or 500 or more workers to an area. While there are different triggers for an open space assessment of indirect effects in certain areas of the city that are considered either underserved or well served by open space, the proposed project does not lie in either of these areas (although a portion of the study area is located within an underserved area). Therefore, no other open space assessment thresholds apply.

For projects that might result in indirect effects on open space, the *CEQR Technical Manual* suggests that a preliminary assessment can be useful in clarifying the degree to which an action would affect open space and the need for further analysis. If the preliminary assessment indicates the need for further analysis, then a detailed analysis of indirect open space effects is performed. For this project, a preliminary assessment indicated the need for further analysis and a detailed analysis was performed for indirect open space effects.

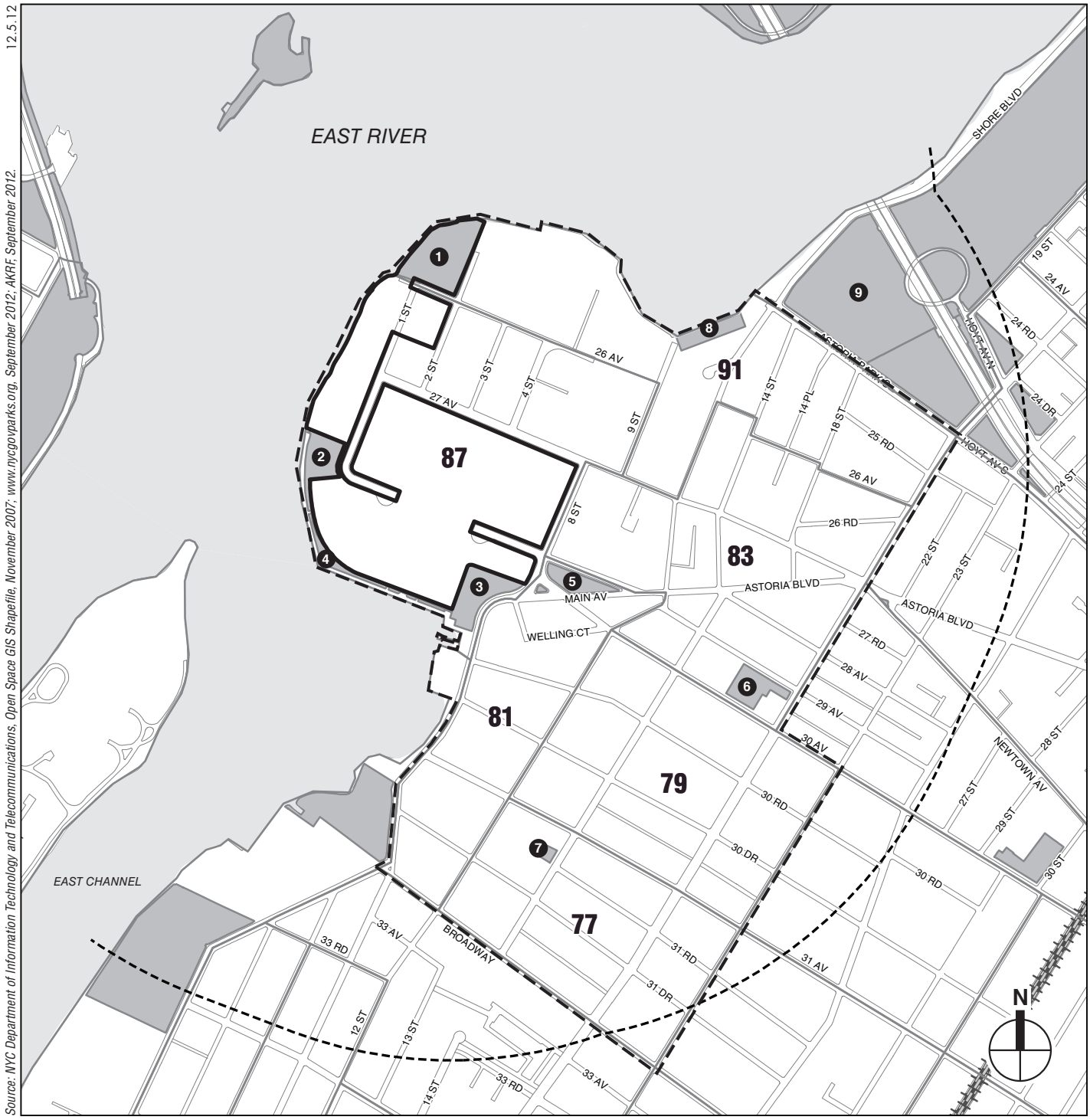
STUDY AREA

This analysis of potential open space impacts was conducted based on the methodology of the *CEQR Technical Manual*. According to CEQR guidelines, the first step in assessing potential open space impacts is to establish study areas appropriate for the new population(s) to be added as a result of the proposed project. Study areas are generally defined by a reasonable travel distance a person would walk to reach a neighborhood open space. Workers (or non-residents) typically use passive open spaces within an approximately 10-minute walking distance (about ¼-mile). Residents are more likely to travel farther to reach parks and recreational facilities. They are assumed to walk about 20 minutes (about a ½-mile distance) to reach both passive and active neighborhood open spaces.

The proposed project would result in an increase of 2,644 residential units and approximately 6,187 new residents on the project site (based on the 2010 average household size of 2.34 persons per household for Queens Community District 1, which includes the project site). As the proposed project would add a substantial new residential population, a quantitative open space assessment is necessary to examine the change in residential population in the study area relative to total, active, and passive publicly accessible open space in the area and to determine whether the increase in population would significantly impact the adequacy of open space resources in the study area. Since the proposed project is expected to result in new, largely residential development; therefore, a study area was established to assess the proposed project's potential open space effects on residential users based on the methodology in the *CEQR Technical Manual*.

The proposed project would introduce new employees associated with the retail uses, community facility space, and residential building maintenance, but it is not anticipated that it would result in a total of 500 or more workers. Therefore, an assessment of the adequacy of open space for the non-residential (worker) population was not required.

As recommended in the *CEQR Technical Manual*, the open space study area comprises all census tracts that have at least 50 percent of their area located within a ½-mile of the project site, so long as they are located in Queens, where the project's effects are most likely to occur (Queens Census Tracts 77, 79, 81, 83, 87, and 91), as shown in **Figure 6-1**. The study area extends approximately to Astoria Park South on the north, Broadway on the south, 21st/23rd Streets on the east, and the East River on the west. All publicly accessible open spaces, as well as all residents within census tracts that fall at least 50 percent within the ½-mile perimeter, were included in the study area The *CEQR*



HALLETTS POINT

Open Space Resources
Figure 6-1

Technical Manual also notes that if a project would result in an extremely large development, the boundary may need to be adjusted to reflect additional open space resources likely to be affected. Since the ½-mile perimeter captures a substantial portion of the large Astoria Park, the portion of the park that is within a ½ mile of the project site was included in the study area, although less than half of the census tract in which it is located (Census Tract 99) is located within the ½-mile perimeter surrounding the project site. It is noted that Census Tract 99 includes 3 residents according to the 2010 Census; since this number is negligible it was not included in the quantified open space analysis.

INVENTORY OF OPEN SPACE RESOURCES

Publicly accessible open spaces and recreational facilities within the study area were inventoried to determine their size, character, utilization, amenities, and condition. Open spaces that are not accessible to the general public or that do not offer usable recreational areas, such as spaces where seating is unavailable, were generally excluded from the survey. The information used for this analysis was gathered through a field survey conducted on September 13, 2012 on a clear, sunny weekday around noon, and from the New York City Department of Parks and Recreation (DPR), as well as from New York City DoITT GIS data.

At each open space, active and passive recreational spaces were noted. Active open space acreage is used for activities such as jogging, field sports, and children's active play. Such open space features include basketball courts, baseball fields, and play equipment. Passive open space usage includes activities such as strolling, reading, sunbathing, and people-watching. Some spaces, such as lawns and public esplanades, can be considered both active and passive recreation areas since they can be used for passive activities such as sitting or strolling and active uses, such as jogging or frisbee. Based on the methodology in the *CEQR Technical Manual*, the use level at each facility was determined based on observations of the amount of space or equipment determined to be in use. Open spaces with less than 25 percent of space or equipment in use were categorized as low usage; those with 25 to 75 percent utilization were classified as moderate usage; and those with over 75 percent utilization were considered heavily used.

In addition to the open spaces located within the study area, open spaces falling outside the study area were considered qualitatively. These spaces provide additional open space resources and are likely to be visited by the study area's residential user populations.

New open space that would be created in the No Action and With Action conditions was accounted for in the analysis, including the 2.35 acres of publicly accessible open space that would be created by the proposed project.

ADEQUACY OF OPEN SPACE RESOURCES

The adequacy of open space in the study area is assessed quantitatively using a ratio of usable open space acreage to the study area population—the open space ratio. The open space ratio provides a measure of open space available per 1,000 residents or workers in the study area.

COMPARISON TO GUIDELINES

As noted above, the adequacy of open space in the study area can be quantitatively assessed using a ratio of usable open space acreage to the study area population—referred to as the open space ratio. To assess the adequacy of open space resources, open space ratios are compared with planning goals set by the New York City Department of City Planning (DCP). Although these open space ratios are not meant to determine whether a proposed project might have a

significant adverse impact on open space resources, they are helpful guidelines in understanding the extent to which user populations are served by open space resources. The following guidelines are used in this type of analysis:

- For non-residential populations, 0.15 acres of passive open space per 1,000 non-residents is typically considered adequate.
- For residential populations, DCP attempts to achieve a ratio of 2.5 acres per 1,000 residents for large-scale proposals. Ideally, this would consist of 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. However, as noted above, these goals are often not feasible for many areas of the city and they do not constitute an impact threshold. Rather, it is a benchmark that represents how well an area is served by its open space. In addition, this analysis compares to the city's median community district open space ratio of 1.5 acres per 1,000 residents.

IMPACT ASSESSMENT

Impact assessment is both quantitative and qualitative. The quantitative assessment considers how a project would change the open space ratios in the study area. The *CEQR Technical Manual* indicates that a significant adverse impact may result if a project would reduce the open space ratio by more than 5 percent in areas that are currently below the city's median community district open space ratio of 1.5 acres per 1,000 residents, or where there would be a direct displacement/alteration of existing open space within the study area that has a significant adverse effect on existing users. In areas that are extremely lacking in open space, a reduction as small as 1 percent may be considered significant, depending on the area of the city. Furthermore, in areas that are well-served by open space, a greater change in the open space ratio may be tolerated.

The qualitative assessment supplements the quantitative assessment and considers nearby destination resources, the connectivity of open space, the effects of new open space provided by the project, the comparison of projected open space ratios with established city guidelines, and open spaces created by the proposed project not available to the general public. It is recognized that DCP goals are not feasible for many areas of the city, and they are not considered impact thresholds on their own. Rather, these are benchmarks indicating how well an area is served by open space.

C. EXISTING CONDITIONS

STUDY AREA POPULATION

Based on *2010 Census* data, the study area had a total of 16,487 residents in 2010 (see **Table 6-1**).

Table 6-2 summarizes the age distribution of the study area population and compares it to Queens and New York City as a whole. As shown, adults between the ages of 20 and 64 represented the largest proportion of the study area's population (approximately 65.5 percent). The 65-and-over age group accounted for approximately 8.4 percent of the study area population, with children 19 and younger making up the remaining 26.1 percent.

Table 6-1
2010 Population in the ½-Mile Residential Study Area

Census Tract	Residential Population
77	1,478
79	3,493
81	1,188
83	2,950
87	4,582
91	2,796
Total	**16,487**

Sources: U.S. Census Bureau, *Census 2010*.

Table 6-2
Percent Distribution of Age Groups in Study Area

Census Tract/ Study Area	Under 5 Years	5 to 9 Years	10 to 14 Years	15 to 19 Years	20 to 64 Years	65+ Years and Older
Study Area	**6.1%**	**6.1%**	**6.5%**	**7.4%**	**65.5%**	**8.4%**
Queens	**5.9%**	**5.5%**	**5.5%**	**6.2%**	**63.9%**	**12.8%**
NYC	**6.3%**	**5.8%**	**5.7%**	**6.6%**	**63.4%**	**12.1%**

Source: U.S. Census Bureau, *Census 2010*.

Given the range of age groups present in the study area population, the study area has need for various kinds of active and passive recreation facilities, including those with amenities that can be used by children and adults. Within a given area, the age distribution of a population affects the way open spaces are used and the need for various types of recreational facilities. Typically, children 4 years old or younger use traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds, as well as grassy and hard-surfaced open spaces, which are important for such activities as ball playing, running, and skipping rope. Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers' and young adults' needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 continue to use court game facilities and fields for sports, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as frisbee, and recreational activities in which all ages can participate. Senior citizens engage in active recreation such as handball, tennis, gardening, and swimming, as well as recreational activities that require passive facilities.

STUDY AREA OPEN SPACES

STUDY AREA

The study area contains 9 publicly accessible open spaces, which total approximately 32.20 total acres. This includes approximately 19.62 acres of active and 12.58 acres of passive open space (see **Table 6-3** and **Figure 6-1**). In terms of publicly accessible open space, the study area includes mainly active open space in playgrounds and ball fields; however, passive open space is also accommodated particularly in an esplanade, a community garden, and a waterfront plaza. Most of the properties are maintained by DPR.

Table 6-3
Existing Open Space Resources Within Study Area

Map ID No.[1]	Name	Address	Owner/ Agency	Features	Total Acres	Passive Acres	Active Acres	Condition	Utilization
1	Whitey Ford Field	2nd St, 26th Ave & East River	DPR	Baseball diamond, bleachers, benches, fitness equipment	3.62	0.36	3.26	Poor	Heavy
2	Hallet's Cove Playground A	1st St and East River	DPR	Play equipment, ball courts, benches	1.25	0.12	1.13	Fair	Moderate
3	Hallet's Cove Playground B	Vernon Blvd and Halletts Cove	DPR	Play equipment, handball court, comfort station, benches	2.25	0.22	2.03	Fair	Moderate
4	Hallet's Cove Esplanade	Halletts Cove	DPR	Esplanade, benches	2.20	1.10	1.10	Poor	Moderate
5	Two Coves Community Garden	Main Ave, Astoria Blvd & 8th St	DPR	Planting beds, paths, benches, picnic tables	0.41	0.41	0.00	Good	Low
6	Van Alst Playground	29th to 30th Aves, 14th to 21st Streets (adjoined to PS 171)	DPR/DOE	Play equipment, handball courts, basketball courts, benches with checkers/ chess tables	0.90	0.09	0.81	Poor	Heavy
7	Astoria Health Playground	14th St bw 31st Ave and 31st Dr	DPR	Play equipment	0.21	0.02	0.19	Fair	Low
8	Shore Towers	9th Street and East River	Shore Towers Condominiums	Waterfront plaza, benches	0.80	0.80	0.00	Excellent	Low
9	Astoria Park (portion within ½ mile of the project site)	Shore Blvd, Astoria Park S, and 21st St	DPR	Paths, lawn, esplanade, running track, tennis courts	18.50	9.25	9.25	Fair	Heavy
Total in Study Area					**30.14**	**12.37**	**17.77**	**NA**	**NA**

Notes:
See Figure 6-1 for open space resources.
Together, Hallet's Cove Playground A, Hallet's Cove Playground B, and the Hallet's Cove Esplanade are also known as Hallet's Cove Playground.
Sources: AKRF Field Survey, September 13, 2012; DPR website, September 2012; NYC DoITT GIS data; DPR, January 2013.

The largest of the study area's open space resources is Astoria Park (even when accounting for only the portion that is within the study area), followed by Whitey Ford Field, Hallet's Cove Playground, and the esplanade along Halletts Cove.[1]

Two of the study area's open spaces (either in whole or in part) are located on the project site: Whitey Ford Field and Hallet's Cove Playground A (within Hallet's Cove Playground). Whitey Ford Field is a 3.62-acre park with a baseball diamond, bleachers, benches, and fitness equipment. Hallet's Cove Playground A totals 1.25 acres between 1st Street and the East River and includes play equipment, ball courts, and benches. A field survey conducted on September 13, 2012 around noon revealed several people utilizing the playground; however, no one was at Whitey Ford Field. Based on information obtained from DPR, Whitey Ford Field has a heavy utilization overall.

Hallet's Cove Playground A, together with Hallet's Cove Playground B and the Hallet's Cove esplanade, make up what is also known as DPR's Hallet's Cove Playground. The esplanade totals approximately 2.20 acres along Halletts Cove and includes benches. During the field survey, several people were seen jogging or walking along the esplanade. The esplanade provides views of the East River, Lighthouse Park at Roosevelt Island, and the Manhattan skyline beyond and offers a pleasant walking experience for the pedestrian. Hallet's Cove Playground B totals approximately 2.25 acres and includes play equipment, handball courts, a

[1] Hallet's Cove Playground A is one area within the larger Hallet's Cove Playground, which also includes a waterfront esplanade ("Hallet's Cove Esplanade") and another playground identified as the Hallet's Cove Playground B.

comfort station, and benches; however no one was seen utilizing the facility during the lunchtime field survey. The comfort station appeared to be locked and in poor condition.

Two Coves Community Garden occupies a triangular piece of land bounded by Main Avenue, Astoria Boulevard, and 8th Street. This 0.41-acre open space includes planting beds, paths, benches, and picnic tables.

Van Alst Playground at PS 171 is a Jointly Operated Playground under the jurisdiction of DPR and the New York City Department of Education (DOE). This 0.9-acre open space at the southern edge of the study area includes basketball and handball courts, play equipment, and benches with checkers/chess boards.

Astoria Health Playground occupies just 0.21 acres on 14th Street between 31st Avenue and 31st Drive.

Shore Towers Condominiums includes a waterfront plaza with benches totaling approximately 0.80 acres along Pot Cove at 9th Street. This area provides a view of the Triborough Bridge over the East River and provides a connection to the waterfront for pedestrians in an otherwise generally residential area.

Lastly, the southernmost portion of Astoria Park is also within a ½ mile of the project site. This portion of the park includes a running track, tennis courts, and a waterfront esplanade as well as lawns, paths, and benches. This area of the park has a heavy use level and is in fair condition, according to DPR.

Additional Open Space Resources

Several public parks and open spaces are located a short distance from the study area boundaries and, as a result, are not included in the quantitative analyses. However, these public parks and open spaces also serve as a resource to the area's residential (and worker) population. For instance, Socrates Sculpture Park, located along the waterfront to the south of the project site between Broadway and 31st Road, is within a ½-mile of the project site but is outside the open space study area (i.e., it is located in a census tract/block group that includes a residential population and that is not at least 50 percent within ½ mile of the project site). This unique 4.5-acre open space, which functions as an outdoor art gallery and cultural and performance space, offers opportunities for passive recreation.

The 8.09-acre Rainey Park, located further south along the waterfront at 33rd Street, features baseball fields, playground equipment, and a dog run.

While only 18.5 acres of Astoria Park are within a ½ mile of the project site, the entire park constitutes 65.78 acres of open space. The portion of this park outside the ½-mile perimeter includes outdoor tennis courts, a bandstand, multiple trails, basketball courts, playgrounds, and baseball diamonds in addition to the oldest and largest pool in New York City.

Other publicly accessible open spaces are also located within ½ mile of the project site on the outskirts of the study area along Hoyt Avenue, including a sitting area maintained by DPR, Triborough Bridge Playground areas, and Chappetto Square. These areas provide an additional approximately 3.68 acres of publicly accessible open space within ½ mile of the project site, including approximately 2.52 acres of passive open space and 1.16 acres of active open space.

In total, approximately 76 acres of publicly accessible open space are available just outside the study area boundaries.

In addition, while not considered publicly accessible open space, the NYCHA Astoria Houses Campus on the project site includes open spaces that are available to its residents, which make up a substantial portion of the study area's population (approximately 3,135 residents or 19 percent)[1]. The Astoria Houses Campus, a housing development run by NYCHA, stretches for several blocks and includes approximately 2.5 acres of open space that is primarily for active recreational use, including several well-maintained playgrounds and two basketball courts, along with areas with benches for seating. The playground facilities at Astoria Houses were heavily utilized during the lunchtime field survey conducted for this analysis in September 2012. The Astoria Houses Campus also includes a substantial amount of landscaped areas that are fenced off but contribute to the sense of open space on the campus.

ADEQUACY OF OPEN SPACE RESOURCES

The analysis of open space resources takes into consideration the ratios of active, passive, and total open space resources per 1,000 residents.

With a total of 30.14 acres of open space (of which 17.77 are for active use and 12.37 are for passive use) and a total residential population of 16,487, the study area has a total open space ratio of 1.83 acres per 1,000 residents (see **Table 6-4**). This is less than DCP's planning guideline of 2.5 acres of open space per 1,000 residents, but exceeds the citywide average of 1.5 acres of open space per 1,000 residents. As noted above, there are numerous open spaces, including the remaining portion of the large Astoria Park, located just outside the open space study area.

The area's residential active open space ratio is 1.08 acres per 1,000 residents, which is below DCP's planning guideline of 2.0 acres per 1,000 residents. The study area's current residential passive open space ratio is 0.75 acres of passive open space per 1,000 residents, which is more than DCP's goal of 0.5 acres per 1,000 residents.

Table 6-4
Existing Conditions: Adequacy of Open Space Resources

2010 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
16,487	30.14	17.77	12.37	1.83	1.08	0.75	2.5	2.0	0.5

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

The assessment of the future without the proposed project (the No Build condition) examines conditions that are expected to occur in the study area by the 2022 build year, absent the proposed project. The capacity of open space resources to serve future populations in the study area is examined using quantitative and qualitative factors.

STUDY AREA POPULATION

As described in Chapter 2, "Analytical Framework," there are several known development projects that are expected to be completed in the open space study area by 2022. These projects

[1] New York City Housing Authority, http://www.nyc.gov/html/nycha/html/developments/queensastoria.shtml, last accessed on December 5, 2012

would add approximately 4,622 new residents to the study area population in the future without the proposed project, based on the 2010 average household size of 2.34 persons for Queens Community District 1, bringing the study area population to 21,109 residents.[1] [2]

STUDY AREA OPEN SPACES

In the future without the proposed project, it is expected that each of the study area's existing open spaces would continue to be open for public use. In addition, Astoria Cove[3] is expected to add approximately 1.63 acres of publicly accessible open space by 2022 (approximately half of the total amount of publicly accessible open space anticipated to be created by the full build-out of that project), which is assumed to be 50 percent active and 50 percent passive. Astoria Cove would include a waterfront esplanade that would run along the entire length of the project site, providing multi-layered active and passive recreation space, and would also improve the portion of 8th Street on the Astoria Cove site as a landscaped pedestrian walkway which would provide access from 27th Avenue to the waterfront, while also serving as a visual corridor.

With the additional open spaces, the study area is expected to have a total of 31.77 acres of open space divided between 13.19 acres of passive space and 18.59 acres of active space.

Table 6-5
Future Without the Proposed Project: New Open Space Resources

Map ID[1]	Name	Owner / Agency	Features	Total Acres	Active Acres	Passive Acres
A	Astoria Cove	2030 Developers, LLC	Half passive, half active	1.63	0.815	0.815
Subtotal, No Build Open Space				**1.63**	**0.815**	**0.815**
Total Open Space in the Study Area				**31.77**	**18.59**	**13.19**

Note: 1. See Figure 6-1 for open space resources.
Source: AKRF, September 2012.

ADEQUACY OF OPEN SPACE RESOURCES

In the future without the proposed project, the open space ratios pertaining to the residential population would decrease compared with the existing conditions. The overall open space ratio would decrease from 1.83 to 1.51 acres per 1,000 residents (see **Table 6-6**). This would be less than DCP's planning guideline of 2.5 acres of open space per 1,000 residents, but would exceed the city's median community district open space ratio of 1.5 acres per 1,000 residents. The area's residential active open space ratio would decrease from 1.08 to 0.88 acres per 1,000 residents and, as in existing conditions, would remain below DCP's planning guideline of 2.0 acres per 1,000 residents. The study area's residential passive open space ratio would decrease from 0.75 to 0.62 acres of passive open space per 1,000 residents, and would continue to exceed DCP's goal of 0.5 acres per 1,000 residents.

---

[1] New York City Department of City Planning, Queens Community District 1 Profile (December 2011)

[2] Future No Build projects include the portion of Astoria Cove that would be built by 2022 (see Chapter 2, "Analytical Framework").

[3] Astoria Cove is subject to its own environmental and public review and approval; however, because it is located in close proximity to the project site, the portion that is assumed to be completed by the 2022 Build year has been incorporated into the future without the proposed project for conservative impact analysis.

Table 6-6
Future Without the Proposed Project: Adequacy of Open Space Resources

2022 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
21,109	31.77	18.59	13.19	1.51	0.88	0.62	2.5	2.0	0.5

Thus, as in existing conditions there would continue to be a deficiency of total and active open space resources in the study area and the amount of passive open space would continue to be sufficient, absent the proposed project in 2022. As in the existing conditions, there would continue to be numerous open spaces, including the remaining portion of the large Astoria Park, located just outside the open space study area, which would be utilized by the study area's residents and would help to alleviate potential shortfalls of public open space. Similarly, the private open spaces at the NYCHA Astoria Houses Campus would continue to be available to the development's residents, which would continue to make up a substantial portion of the study area's population (approximately 15 percent in the No Build condition), and would supplement the inventory of publicly accessible open space that would be available to these residents.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The assessment of conditions in the future with the proposed project examines conditions that are expected to occur as a result of the proposed project. The capacity of open space resources to serve future populations in the study area is examined using quantitative and qualitative factors. The potential for direct effects on open space is also considered.

DIRECT EFFECTS

As described above in the discussion of methodology, direct adverse effects on an open space occur when a proposed project would cause the physical loss of public open space; change the use of an open space so that it no longer serves the same user population; limit public access to an open space; or cause increased noise or air pollutant emissions, odors, or shadows that would affect its usefulness, whether on a permanent or temporary basis. The proposed project involves the alienation and jurisdictional transfer of a 10-foot-wide strip of parkland of Hallet's Cove Playground from DPR to NYCHA to create a single zoning lot containing the Waterfront (WF) Parcel and the NYCHA Parcel. Because the 10-foot-wide strip of parkland would continue to be used as open space, no replacement parkland would be required per the alienation legislation approved as per Chapter 339 of the New York State Laws of 2012. The Mayor's Memorandum of Support for the alienation of the 10-foot strip was based on the Applicant's commitment to undertake or fund improvements to adjacent parkland, subject to DPR approval. Potential park improvements include repairing and/or repaving the softball field and basketball half courts at Hallet's Cove Playground, fence repairs, and/or the installation of new fencing along DPR's waterfront promenade. In addition, the proposed project would establish Whitey Ford Field as mapped public parkland. In the case of both Whitey Ford Field and Hallet's Cove Playground, the proposed project would not be expected to change the use of the public open space, and would therefore not result in adverse direct effects to the users of the open spaces. Therefore, a detailed assessment of direct effects was not necessary. In addition, study area open spaces would not experience project-related significant adverse shadows, air quality, or operational noise impacts (see Chapters 7, "Shadows," 16, "Air Quality," and 18, "Noise"). As discussed in Chapter 7, "Shadows," a shadows analysis that was conducted for the proposed project demonstrates that the proposed project would result in new shadows on several nearby open spaces, including

Hallet's Cove Esplanade, Hallet's Cove Playground, and Whitey Ford Field. For users of these open spaces, despite the new incremental shadows, alternative sunlit open spaces would be available for use nearby during the affected times, including along the waterfront and in the Astoria Houses development. For the active users of Whitey Ford Field, primarily youth and adult baseball and softball leagues active in the spring, summer, and fall, the new shadows would not substantially reduce the usability of the space. The shadows analysis concludes that the proposed project would not cause any significant adverse shadow impacts to either the vegetation or the users of these open spaces.

With respect to construction noise, during construction of the proposed project, construction activities would produce $L_{10(1)}$ noise levels at Whitey Ford Field and Hallet's Cove Playground which would exceed the levels recommended by CEQR for passive open spaces (55 dBA L_{10}). (Noise levels in these areas exceed CEQR recommended values for existing and No Action conditions.) These open spaces would experience temporary significant adverse noise impacts during construction.

The proposed project would create approximately 2.35 acres of publicly accessible open space, including a waterfront esplanade, a plaza and lawn area at 27th Avenue, and five new upland connections to 1st Street. The waterfront esplanade would run the length of the site's waterfront, connecting on the south to Hallet's Cove Playground and on the north to Whitey Ford Field and to the existing open space in the NYCHA Astoria Houses Campus across 1st Street. The proposed open space would include landscaping and seating along the waterfront and a playground. The upland connections are intended to provide view corridors and physical public access from 1st Street to the East River that do not currently exist. As each site along the waterfront is built out, the associated public open space required under the Zoning Resolution would be completed at the same time as the buildings. These upland areas would include plantings, paths, seating, and lighting. The proposed waterfront esplanade would be designed to provide a cohesive transition between the project site and Whitey Ford Field to the north and the Hallet's Cove Playground to the south.

STUDY AREA POPULATION

It is anticipated that the proposed project would result in a net increase of 2,644 market-rate and affordable residential units on the project site. Based on the 2010 average household size of 2.34 persons for Queens Community District 1, the additional dwelling units would add an estimated 6,187 residents to the study area, bringing the study area's residential population to 27,296. Building 8, which includes 240 market-rate units, would not be developed by the Applicant; rather, Building 8 is expected to be developed as part of a future request for proposals (RFP) by NYCHA.

STUDY AREA OPEN SPACES

As described above and in Chapter 1, "Project Description," the proposed project would introduce approximately 2.35 acres of publicly accessible open space. For analysis purposes, it is assumed that the proposed open space would consist of approximately 1.65 acres of passive open space and 0.70 acres of active open space. The proposed waterfront esplanade and the 27th Avenue lawn area are assumed to be 50 percent and 50 percent active, while the upland connections to 1st Street (not including the 27th Avenue lawn area), would be 100 percent passive. Therefore, in the future with the proposed project, the total amount of open space in the study area would increase to approximately 34.12 acres, with 19.29 acres of active open space and 14.84 acres of passive open space.

ADEQUACY OF OPEN SPACE RESOURCES

QUANTITATIVE ASSESSMENT

In the future with the proposed project, the open space ratios pertaining to the residential populations would decrease as compared to the conditions in the future without the proposed project (see **Tables 6-7** and **6-8**). The overall open space ratio would decline from 1.51 to 1.25 acres per 1,000 residents. This would be less than DCP's planning guideline of 2.5 acres of open space per 1,000 residents, as in the future without the proposed project. The area's residential active open space ratio would decrease from 0.88 to 0.71 acres per 1,000 residents, still substantially below DCP's planning guideline of 2.0 acres per 1,000 residents. The study area's residential passive open space ratio would decrease from 0.62 acres to 0.54 acres of passive open space per 1,000 residents, but would continue to exceed DCP's goal of 0.5 acres per 1,000 residents.

Table 6-7
Future With the Proposed Project: Adequacy of Open Space Resources

2022 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
27,296	34.12	19.29	14.84	1.25	0.71	0.54	2.5	2.0	0.5

Table 6-8
No Build to Build Change in Open Space Ratios

Ratio	DCP Guideline	No Build Ratio	Build Ratio	Percent Change
Total/residents	2.5	1.51	1.25	-16.9%
Passive/residents	0.5	0.62	0.54	-13.0%
Active/residents	2.0	0.88	0.71	-19.7%

QUALITATIVE ASSESSMENT

In the future with the proposed project, there would continue to be numerous open spaces, including the remaining portion of the large Astoria Park, located just outside the open space study area, which would be utilized by the study area's residents and would help to alleviate potential shortfalls of public open space. The proposed project would provide active recreational resources for its residents, which would also partially alleviate the potential increase in demand for active open space as a result of the project.

While the quantitative analysis indicates that there would be a total and active open space deficiency in the study area with the proposed project, as in the future without the proposed project, as noted above, this analysis does not include the private open space that would be developed on the project site as a result of the proposed project, or the open spaces that are located just beyond the study area boundaries, such as Socrates Sculpture Park, the 4.5-acre open space located along the waterfront to the south of the project site between Broadway and 31st Road, within a ½-mile of the project site, or the 8.09-acre Rainey Park, located further south along the waterfront at 33rd Street. It also does not include the 2.5 acres of private open space and recreational facilities that are available to the NYCHA Astoria Houses residents within the project site, which would continue to account for a substantial portion of the study area's population (approximately 12 percent in the Build condition).

In addition, while only 18.50 acres of Astoria Park are within a ½ mile of the project site, the entire park constitutes 65.78 acres of open space. The portion of this park outside the ½-mile perimeter includes outdoor tennis courts, a bandstand, multiple trails, basketball courts, playgrounds, and baseball diamonds in addition to the oldest and largest pool in New York City. On the edge of the East River and between the Triborough Bridge and Hell Gate Bridge, the park offers waterfront views that make the benches along its perimeter popular spots year-round.[1] Because of the size of this open space and the type of facilities it provides, and its close proximity to the study area boundary, it is likely that this resource serves a substantial portion of the study area population and would help alleviate a potential active open space shortage in the study area in the future with the proposed project, but has not been accounted for quantitatively due to the constraints of the analysis methodology.

Further, by adding a new, high-quality waterfront open space, the proposed project would provide connections to other esplanades and would provide opportunities for active uses such as running and biking along the Queens waterfront. These new connections would be in keeping with the city's waterfront revitalization program goal of creating continuous public waterfront access. In addition, the proposed project would improve the community's access to the waterfront by creating five new upland connections to the waterfront. The waterfront open space would also provide new unobstructed views of the East River and Manhattan skyline. The proposed project's waterfront open space would represent a major new open space resource for the Astoria neighborhood. The proposed open space would serve the existing community as well as residents of the proposed project and other anticipated development projects, that are expected to be completed in the open space study area by the 2022, as described in Chapter 2, "Analytical Framework," many of which are not expected to provide publicly accessible open space (it should be noted that the proposed Astoria Cove project is expected to include publicly accessible open space as discussed above in Section D, "The Future Without the Proposed Project").

Moreover, the proposed project would include indoor and outdoor amenity space and recreational facilities for future building residents. Although these facilities would not be publicly accessible, they would offset the open space demand generated by building residents, particularly demand for active open space, and would help to alleviate a potential shortfall of active open space.

IMPACT SIGNIFICANCE

According to the *CEQR Technical Manual*, the significance of a project's effects on open space is assessed using both qualitative and quantitative factors. These effects are compared with those that would occur in the No Build condition to determine the effects attributable to the proposed project.

According to the *CEQR Technical Manual*, if the decrease in the open space ratio approaches or exceeds 5 percent, it is generally considered a substantial change. However, the change in the open space ratio should be balanced against how well-served an area is by open space. If the study area exhibits a low open space ratio, even a small decrease may be substantial. Likewise, if the study area exhibits an open space ratio that approaches or exceeds the planning goal of 2.5 acres, a greater percentage of change in the ratio may be acceptable.

[1] New York City Department of Parks and Recreation, http://www.nycgovparks.org/parks/AstoriaPark, last accessed on January 30, 2013.

DIRECT EFFECTS

As described above, the proposed project involves the alienation and jurisdictional transfer of a 10-foot-wide strip of parkland of Hallet's Cove Playground from DPR to NYCHA. Because the 10-foot-wide strip of parkland would continue to be used as open space, there would be no adverse direct effects to the users of the open space and no replacement parkland would be required per the alienation legislation approved as per Chapter 339 of the New York State Laws of 2012. The Mayor's Memorandum of Support for the alienation of the 10-foot strip was based on the Applicant's commitment to undertake or fund improvements to adjacent parkland, subject to DPR approval. Potential park improvements include repairing and/or repaving the softball field and basketball half courts at Hallet's Cove Playground, fence repairs, and/or the installation of new fencing along DPR's waterfront promenade.

In addition, study area open spaces would not experience project-related significant adverse shadows, air quality, or operational noise impacts (see Chapters 7, "Shadows," 16, "Air Quality," and 18, "Noise"). As discussed above and in Chapter 7, "Shadows," a shadows analysis that was conducted for the proposed project demonstrates that the proposed project would result in new shadows on several nearby open spaces, including Hallet's Cove Esplanade, Hallet's Cove Playground, and Whitey Ford Field, but that alternative sunlit open spaces would be available for use nearby during the affected times, and the new shadows would not substantially reduce the usability of Whitey Ford Field. The shadows analysis concludes that the proposed project would not cause any significant adverse shadow impacts to either the vegetation or the users of these open spaces, and therefore the proposed project's incremental shadows would not result in significant adverse direct open space impacts. As noted above, construction activities would result in temporary significant adverse noise impacts during construction at Whitey Ford Field and Hallet's Cove Playground. While this is not desirable, there is no effective practical mitigation[1] that could be implemented to avoid these levels during construction. Noise levels in many parks and open space areas throughout the city, which are located near heavily trafficked roadways and/or near construction sites, experience comparable and sometimes higher noise levels. Therefore, the proposed project would not result in any significant adverse direct effects to open space.

INDIRECT EFFECTS

Under the existing and future conditions without or with the proposed project, the total and active open space ratios are below DCP's optimal planning goals, and the passive open space ratio is above DCP's passive open space guideline. Although the total and active open space ratios would be below the levels recommended by the city, it is recognized that these goals are not feasible for many areas of the city, and they are not considered impact thresholds. The *CEQR Technical Manual* indicates that a significant adverse impact may result if a project would reduce the open space ratio by more than 5 percent in areas that are currently below the city's median community district open space ratio of 1.5 acres per 1,000 residents. As discussed above, the project site is not located in an area currently below the city's median community district open space ratio of 1.5 acres per 1,000 residents. However, the proposed project would result in more than a 5 percent decrease in the total, active, and passive open space ratios (see **Table 6-8**).

The proposed project includes substantial open space benefits and recreational amenities. As described above in "Qualitative Considerations," by adding a new, high-quality waterfront open

[1] Noise barriers would not be practical because of security concerns.

space, the proposed project would result in an improvement to the area's open space conditions that is not clearly reflected in the quantitative analysis. As noted above, the proposed project's waterfront open space would represent a major new open space resource for the Astoria neighborhood. The proposed open space would serve the existing community as well as residents of the proposed project and the other anticipated development projects that are expected to be completed in the open space study area by the 2022, as described in Chapter 2, "Analytical Framework," many of which are not expected to provide publicly accessible open space (it should be noted that the proposed Astoria Cove project is expected to include publicly accessible open space as discussed above in Section D, "The Future Without the Proposed Project"). The proposed open space would provide access to the Halletts Point waterfront and would connect with other waterfront open spaces.

As described above, within the project site itself, the private open spaces at the NYCHA Astoria Houses Campus, including several well-maintained playgrounds and two basketball courts, along with areas with benches for seating, would continue to supplement the inventory of publicly accessible open space that would be available to this facility's residents (approximately 12 percent of the study area's population in the future with the proposed project). Given the size and type of facilities in the NYCHA Astoria Houses Campus, they provide a substantial offset to the open space demand of the campus' residents. If this open space were accounted for in the quantitative assessment, it would reduce the open space shortfall for the portion of the study area population that has access to it. Taking the NYCHA Astoria Houses Campus open space into account, the Build ratios for total and active open space would increase to 1.34 and 0.75 acres per 1,000 residents, respectively, compared with 1.25 and 0.71 in the future with the proposed project. There are also numerous open space resources located in close proximity to the study area boundary, including the particularly large Astoria Park, which would be available to offset potential adverse effects on open space.

It should be noted that this analysis accounts for robust background growth in the residential population for the purposes of a conservative analysis; however, should this growth not materialize, the future open space ratios would be greater. The proposed Astoria Cove project was included in the background condition and includes a large residential component. The Astoria Cove project requires discretionary land use approvals and its own environmental review; however, because it is located in close proximity to the project site, the portion that is assumed to be completed by the 2022 Build year has been incorporated into the future without the proposed project for conservative impact analysis. Moreover, Building 8, which includes 240 market-rate units, would not be developed by the Applicant; rather, Building 8 is expected to be developed as part of a future RFP by NYCHA.

Nevertheless, the additional residents would exacerbate existing deficiencies in active open space in the study area and exceed the capacity of the study area's open spaces to serve its population. Therefore, the proposed project would result in a significant adverse impact with respect to open space in the residential study area due to the decrease in total and active open space ratios. Potential measures to mitigate the open space impacts are described in Chapter 22, "Mitigation." ✷